



General

Guideline Title

Best evidence statement (BEST). Use of irrigation solution, warm versus room temperature, for irrigation procedures in the emergency department and urgent care.

Bibliographic Source(s)

Cincinnati Children's Hospital Medical Center. Best evidence statement (BEST). Use of irrigation solution, warm versus room temperature, for irrigation procedures in the emergency department and urgent care. Cincinnati (OH): Cincinnati Children's Hospital Medical Center; 2012 May 21. 6 p. [9 references]

Guideline Status

This is the current release of the guideline.

Recommendations

Major Recommendations

The strength of the recommendation (strongly recommended, recommended, or no recommendation) and the quality of the evidence (1a to 5b) are defined at the end of the "Major Recommendations" field.

It is recommended that solution be warmed to 32.2°-37.8°C (equivalent to 90°-100°F) before performing irrigation on lacerations, ears or eyes to improve patient comfort (Ernst et al., 2003 [2a]; Ernst et al., 1999 [2a]; Ernst et al., 1998 [2a]).

Definitions:

Table of Evidence Levels

Quality Level	Definition
1a† or 1b†	Systematic review, meta-analysis, or meta-synthesis of multiple studies
2a or 2b	Best study design for domain
3a or 3b	Fair study design for domain
4a or 4b	Weak study design for domain
5a or 5b	General review, expert opinion, case report, consensus report, or guideline
5	Local consensus

†a = good quality study; b = lesser quality study

Table of Recommendation Strength

Strength	Definition
It is strongly recommended that... It is strongly recommended that...not...	There is consensus that benefits clearly outweigh risks and burdens (<i>or vice versa for negative recommendations</i>).
It is recommended that... It is recommended that...not...	There is consensus that benefits are closely balanced with risks and burdens.
There is insufficient evidence and a lack of consensus to make a recommendation...	

See the original guideline document for the dimensions used for judging the strength of the recommendation.

Clinical Algorithm(s)

None provided

Scope

Disease/Condition(s)

Simple laceration repairs, eye or ear irrigations requiring solution irrigation

Guideline Category

Treatment

Clinical Specialty

Emergency Medicine

Family Practice

Internal Medicine

Ophthalmology

Otolaryngology

Pediatrics

Intended Users

Advanced Practice Nurses

Nurses

Physician Assistants

Physicians

Guideline Objective(s)

To evaluate, among pediatric patients presenting to the Emergency Department or Urgent Care needing a simple procedure that requires irrigation, if using warm irrigation solution compared to using room temperature irrigation solution leads to increased comfort and improved patient experience

Target Population

Pediatric patients (0-21 years old) presenting to the Emergency Department or Urgent Care requiring solution irrigation for simple laceration repairs or eye or ear irrigations

Interventions and Practices Considered

Warm solution (32.2-37.8°C) before performing irrigation on ear or eye lacerations

Major Outcomes Considered

- Comfort level
- Patient experience

Methodology

Methods Used to Collect/Select the Evidence

Searches of Electronic Databases

Description of Methods Used to Collect/Select the Evidence

Search Strategy

Databases used: MEDLINE, CINAHL, Cochrane Library, National Guideline Clearinghouse

Keywords: warm saline, irrigation, comfort, laceration, experience, pediatrics

Limits: English only, 1995-present

Last search performed on March 29, 2012

Children's Hospital Association inquiry returned 2 responses and neither hospital warms solutions for irrigation.

Number of Source Documents

Not stated

Methods Used to Assess the Quality and Strength of the Evidence

Weighting According to a Rating Scheme (Scheme Given)

Rating Scheme for the Strength of the Evidence

Table of Evidence Levels

Quality Level	Definition
1a† or 1b†	Systematic review, meta-analysis, or meta-synthesis of multiple studies
2a or 2b	Best study design for domain
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4a or 4b	Weak study design for domain
5a or 5b	General review, expert opinion, case report, consensus report, or guideline
5	Local consensus

†a = good quality study; b = lesser quality study

Methods Used to Analyze the Evidence

Systematic Review

Description of the Methods Used to Analyze the Evidence

Not stated

Methods Used to Formulate the Recommendations

Expert Consensus

Description of Methods Used to Formulate the Recommendations

Not stated

Rating Scheme for the Strength of the Recommendations

Table of Recommendation Strength

Strength	Definition
It is strongly recommended that... It is strongly recommended that...not...	There is consensus that benefits clearly outweigh risks and burdens (<i>or vice versa for negative recommendations</i>).
It is recommended that... It is recommended that...not...	There is consensus that benefits are closely balanced with risks and burdens.
There is insufficient evidence and a lack of consensus to make a recommendation...	

See the original guideline document for the dimensions used for judging the strength of the recommendation.

Cost Analysis

A formal cost analysis was not performed and published cost analyses were not reviewed.

Method of Guideline Validation

Peer Review

Description of Method of Guideline Validation

This Best Evidence Statement has been reviewed against quality criteria by 2 independent reviewers from the Cincinnati Children's Hospital Medical Center (CCHMC) Evidence Collaboration.

Evidence Supporting the Recommendations

References Supporting the Recommendations

Ernst AA, Gershoff L, Miller P, Tilden E, Weiss SJ. Warmed versus room temperature saline for laceration irrigation: a randomized clinical trial. *South Med J*. 2003 May;96(5):436-9. [PubMed](#)

Ernst AA, Takakuwa KM, Letner C, Weiss SJ. Warmed versus room temperature saline solution for ear irrigation: a randomized clinical trial. *Ann Emerg Med*. 1999 Sep;34(3):347-50. [PubMed](#)

Ernst AA, Thomson T, Haynes M, Weiss SJ. Warmed versus room temperature saline solution for ocular irrigation: a randomized clinical trial. *Ann Emerg Med*. 1998 Dec;32(6):676-9. [PubMed](#)

Type of Evidence Supporting the Recommendations

The type of supporting evidence is identified and graded for each recommendation (see the "Major Recommendations" field).

Benefits/Harms of Implementing the Guideline Recommendations

Potential Benefits

In addition to providing the optimum wound healing environment use of warmed solution may improve comfort with the procedure and foster a positive patient/family experience.

Potential Harms

Warming methods will need to be monitored to maintain the solution between 32.2° and 37.8°C (equivalent to 90°-100°F).

Qualifying Statements

Qualifying Statements

This Best Evidence Statement addresses only key points of care for the target population; it is not intended to be a comprehensive practice guideline. These recommendations result from review of literature and practices current at the time of their formulation. This Best Evidence Statement does not preclude using care modalities proven efficacious in studies published subsequent to the current revision of this document. This document is not intended to impose standards of care preventing selective variances from the recommendations to meet the specific and unique requirements of individual patients. Adherence to this Statement is voluntary. The clinician in light of the individual circumstances presented by the

patient must make the ultimate judgment regarding the priority of any specific procedure.

Implementation of the Guideline

Description of Implementation Strategy

An implementation strategy was not provided.

Implementation Tools

Audit Criteria/Indicators

For information about availability, see the *Availability of Companion Documents* and *Patient Resources* fields below.

Institute of Medicine (IOM) National Healthcare Quality Report Categories

IOM Care Need

Getting Better

IOM Domain

Effectiveness

Identifying Information and Availability

Bibliographic Source(s)

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Adaptation

Not applicable: The guideline was not adapted from another source.

Date Released

2012 May 21

Guideline Developer(s)

Cincinnati Children's Hospital Medical Center - Hospital/Medical Center

Source(s) of Funding

Cincinnati Children's Hospital Medical Center

Guideline Committee

Not stated

Composition of Group That Authored the Guideline

Team Leader: Diane Morris RNIII, Emergency Service staff nurse – Urgent Care

Support/Consultant: Carolyn Smith MSN, RN, Evidence-Based Practice Mentor – Center for Professional Excellence, Research & EBP

Financial Disclosures/Conflicts of Interest

No financial conflicts of interest were found.

Guideline Status

This is the current release of the guideline.

Guideline Availability

Electronic copies: Available from the [Cincinnati Children's Hospital Medical Center Web site](#) .

Print copies: For information regarding the full-text guideline, print copies, or evidence-based practice support services contact the Cincinnati Children's Hospital Medical Center Health James M. Anderson Center for Health Systems Excellence at EBDMInfo@cchmc.org.

Availability of Companion Documents

The following are available:

- Judging the strength of a recommendation. Cincinnati (OH): Cincinnati Children's Hospital Medical Center; 2008 Jan. 1 p. Available from the [Cincinnati Children's Hospital Medical Center Web site](#) .
- Grading a body of evidence to answer a clinical question. Cincinnati (OH): Cincinnati Children's Hospital Medical Center; 1 p. Available from the [Cincinnati Children's Hospital Medical Center Web site](#) .
- Table of evidence levels. Cincinnati (OH): Cincinnati Children's Hospital Medical Center; 2008 Feb 29. 1 p. Available from the [Cincinnati Children's Hospital Medical Center Web site](#) .

Print copies: For information regarding the full-text guideline, print copies, or evidence-based practice support services contact the Cincinnati Children's Hospital Medical Center Health James M. Anderson Center for Health Systems Excellence at EBDMInfo@cchmc.org.

In addition, suggested process or outcome measures are available in the [original guideline document](#) .

Patient Resources

None available

NGC Status

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